AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remain(s) under examination in the application is presented below. The claims are presented in ascending order and each includes one status identifier. Those claims not cancelled or withdrawn but amended by the current amendment utilize the following notations for amendment: 1. deleted matter is shown by strikethrough for six or more characters and double brackets for five or less characters; and 2. added matter is shown by underlining.

1-13. (Canceled)

14. (Currently Amended) A device designed to spray an overheated liquid in the form of very fine droplets at a very high speed, the overheated liquid ~~relates to a liquid at~~ having a temperature To and [[to]] a pressure Po greater than [[the]] a saturated vapor pressure Ps corresponding to To, the vapor pressure Ps ~~itself being~~ greater than [[the]] a pressure P1 of [[the]] a gaseous medium in which the liquid is sprayed, comprising:

a nozzle body fixed on a support ~~allowing the~~ and receiving a supply of the overheated liquid, the nozzle body comprising a conduit where the overheated liquid circulates, followed by one or more convergent heads and by one or more injectors where the overheated liquid attains speed to open onto a divergent and speed attainment nozzle where [[the]] a liquid jet of the overheated liquid partially evaporates and instantaneously explodes under [[the]] effect of [[the]] a pressure difference between the liquid and [[the]] an ambient medium of the divergent nozzle[[,]] to form a mixture of fine droplets and vapor, [[the]] wherein a generatrix of the divergent nozzle ~~presenting~~ presents a discontinuity~~, that is~~ in the form of an angle[[,]] at [[its]] an intersection with ~~that of~~ the one or more injectors, and [[the]] an exit section of [[this]] the divergent nozzle is sized [[so]] such that the mixture is ejected from the divergent nozzle at the pressure P1 of the ~~external~~ gaseous medium at [[the]] maximum ejection speed.

15. (Currently Amended) The device according to claim 14, wherein ~~at the output of the injectors,~~ the angle between the generatrix of the divergent nozzle and [[the]] walls of the one or more injectors is a right angle at an output of the one or more injectors.

16. (Currently Amended) The device according to claim 14, wherein the divergent nozzle is at least partially ~~or totally~~ integrated with the ~~external~~ support.

17. (Currently Amended) A device designed to spray an overheated liquid in ~~the form of~~ very fine droplets at a very high speed, the overheated liquid ~~relates to a liquid at~~ having a temperature To and [[to]] a pressure Po greater than [[the]] a saturated vapor pressure Ps corresponding to To, the vapor pressure Ps ~~itself being~~ greater than [[the]] a pressure P1 of [[the]] a gaseous medium in which the liquid is sprayed, comprising: ~~wherein~~

a nozzle body fixed on a support ~~allowing the~~ and receiving a supply of the overheated liquid, the nozzle body comprising a conduit where the overheated liquid circulates, followed by a convergent head and an annular injector passage section where the overheated liquid attains speed to open into a divergent and speed attainment nozzle where [[the]] a liquid jet partially evaporates and instantaneously explodes under [[the]] effect of [[the]] a pressure difference between the liquid and [[the]] an ambient medium of the nozzle to form a mixture of fine droplets and vapor, wherein[[; the]] a generatrix of the divergent nozzle ~~presenting~~ presents a discontinuity~~, that is~~ in the form of an angle[[,]] at [[its]] an intersection with ~~that of~~ the annular injector passage section, and [[the]] an exit section of [[this]] the divergent nozzle is sized [[so]] such that the mixture is ejected from the divergent nozzle at the pressure P1 of the ~~external~~ gaseous medium at [[the]] maximum ejection speed.

18. (Currently Amended) The device according to claim 17, wherein the annular injector passage section comprises a free space between a cavity~~, for example cylindrical,~~ and an injection core, and wherein a [[the]] mode of fixation of the injection core on the nozzle body allows circulation of the liquid to be sprayed in the divergent nozzle.

19. (Currently Amended) The device according to claim 18, wherein the injection core of the annular injector passage section is a profiled injection core of variable section increasing in the direction of flow ~~that may~~ adapted to slide on [[the]] an axis of the annular injector passage section, and wherein an [[the]] exit section of the annular injector passage section is adapted to ~~may then~~ be adjusted by adjusting [[the]] a position of the profiled injection core.

20. (Currently Amended) The device according to claim 17, wherein ~~at its junction with the cavity of the annular injector,~~ the generatrix of the divergent nozzle is perpendicular to [[the]] walls of [[this]] a cavity of the annular injector passage section.

21. (Currently Amended) The device according to claim 17, wherein the divergent nozzle is at least partially ~~or totally~~ integrated with the ~~external~~ support.

22. (Currently Amended) A device designed to spray an overheated liquid in the form of very fine droplets at a very high speed[[,]] and allowing~~, for the same spray nozzle, the~~ a flow, a pressure Po or a temperature To of the overheated liquid upon entry to a spray nozzle, as well as a pressure P1 of a gaseous medium in which the liquid is sprayed, to be modified as required~~, as~~

~~well as the pressure P1 of the gaseous medium in which the liquid is sprayed,~~ while maintaining a maximum ejection speed of sprayed droplets exiting the device, the overheated liquid being a liquid at a temperature To and a pressure Po greater than [[the]] a saturated vapor pressure Ps corresponding to temperature To, the vapor pressure Ps ~~itself~~ being greater than the pressure P1 of the gaseous medium in which the liquid is sprayed, comprising:

a nozzle body fixed on a support ~~allowing the~~ and receiving a supply of overheated liquid, the nozzle body comprising a conduit where the overheated liquid circulates, followed by one or more convergent heads and by one or more injectors where the overheated liquid attains speed to open into a divergent and speed attainment nozzle where [[the]] a liquid jet of the overheated liquid partially evaporates and instantaneously explodes under [[the]] effect of [[the]] a pressure difference between the liquid and the divergent nozzle to form a mixture of fine droplets and vapor, wherein a profiled core is housed in the divergent nozzle~~, that may~~ and is configured to slide on [[the]] an axis of [[this]] the divergent nozzle~~, and allowing~~ to provide, according to [[its]] a position of the profiled core, [[the]] adjustment of an exit section of [[this]] the divergent nozzle, wherein ~~to be adjusted, the~~ continuous and monotonic profiles of [[the]] generatrixes of the divergent nozzle and of the profiled core ~~allowing~~ provide for an increasing passage section ~~to be maintained~~ between the divergent nozzle and the profiled core along the axis of the divergent nozzle to be maintained, ~~whatever~~ regardless of the position of the profiled core, wherein a [[the]] generatrix of the divergent nozzle ~~presenting~~ presents a discontinuity~~, that is~~ in the form of an angle[[,]] at [[its]] an intersection with ~~that of~~ the one or more injectors, and wherein a mechanism provides for ~~allowing~~ the profiled core to be supported and [[its]] a

relative position of the profiled core relative ~~with relation~~ to the divergent nozzle to be adjusted ~~from the outside~~ externally.

23. (Currently Amended) The device according to claim 22, wherein ~~at the output of the injectors,~~ the generatrix of the divergent nozzle is perpendicular to [[the]] walls of [[these]] the one or more injectors at an output of the one or more injectors.

24. (Currently Amended) The device according to claim 22, wherein the divergent nozzle is at least partially ~~or totally~~ integrated with the ~~external~~ support.

25. (Currently Amended) The device according to claim 22, wherein [[the]] positioning of the profiled core in the divergent nozzle comprises automation designed to adjust the exit section of the divergent nozzle [[so]] such that the exit section corresponds to the flow, ~~Pressure~~ pressure Po, and ~~Temperature~~ temperature To of the overheated liquid upon entry, as well as to the ~~Pressure~~ pressure P1 of the gaseous medium in which the liquid is sprayed, to maximize ~~so that~~ the ejection speed of the sprayed droplets exiting from the device ~~is always maximum~~.

26. (Currently Amended) The device according to claim 22, wherein the one or more injectors are [[is an]] annular injectors, the annular injectors comprising ~~being comprised of the~~ free space between a cavity ~~, for example cylindrical,~~ and an injection core.

27. (Currently Amended) The device according to claim 25, wherein the one or more injectors are [[is an]] annular injectors, the annular injectors comprising ~~being comprised of the~~ free space between a cavity ~~, for example cylindrical,~~ and an injection core.

28. (Currently Amended) The device according to claim 26, wherein the injection core of the annular injector is a profiled injection core with a variable section increasing in the direction of flow and configured to ~~that may~~ slide on [[the]] an axis of the annular injector, [[the]] such that an exit section of the annular injector ~~may therefore be adjusted~~ is adjustable by adjusting [[the]] a position of the profiled injection core.

29. (Currently Amended) The device according to claim 27, wherein the injection core of the annular injector is a profiled injection core of variable section increasing in [[the]] a direction of flow ~~that may~~ and adapted to slide on [[the]] an axis of the annular injector[[,]] such that an [[the]] exit section of the annular injector may then be adjusted by adjusting [[the]] a position of the profiled injection core.